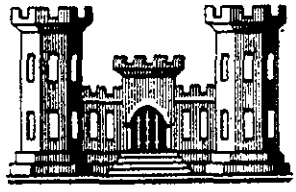
FRENCHBORO HARBOR
LONG ISLAND PLANTATION
MAINE

IMPROVEMENT DREDGING

DESIGN MEMORANDUM



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASS.

JULY 1974

35

IMPROVEMENT DREDGING

FRENCHBORO HARBOR

LONG ISLAND PLANTATION, MAINE

DESIGN MEMORANDUM

PHASE I AND PHASE II COMBINED

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASSACHUSETTS

JULY 1974

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02154

REPLY TO
ATTENTION OF:

NEDED-T

26 July 1974

SUBJECT: Improvement Dredging Frenchboro Harbor, Long Island Plantation Maine - Combined Phase I and Phase II Design Memorandum

HQDA (DAEN-CWE-B)
WASH DC 20314

1. References:

a. ER 1110-2-1150.

b. NED letter to OCE dated 12 June 1973, subject: "Waiver of Phase I - GDM Requirements for Revere Beach, Massachusetts and Frenchboro Harbor, Maine Authorized Projects."

c. 1st Ind to above-referenced letter from DAEN-CWP-E dated 19 June 1973.

2. In accordance with the above references there are inclosed fourteen (14) copies of the Combined Phase I and Phase II Design Memorandum for review and approval. The project involves dredging operations with no special design or excavation problems.

3. A copy of the Final Environmental Impact Statement dated 19 October 1970 filed with the President's Council on Environmental Quality on 16 November 1970 is included as an attachment to the report. An updated Environmental Impact Statement will be filed prior to advertising the Project.

FOR THE DIVISION ENGINEER:

Incl
Design Memo (14 cys)

JOHN Wm. LESLIE
Chief, Engineering Division

IMPROVEMENT DREDGING
FRENCHBORO HARBOR
LONG ISLAND PLANTATION, MAINE

DESIGN MEMORANDUM
PHASE I AND PHASE II COMBINED

CONTENTS

IMPROVEMENT DREDGING
FRENCHBORO HARBOR
LONG ISLAND PLANTATION, MAINE
DESIGN MEMORANDUM
PHASE I AND PHASE II COMBINED

A. PERTINENT DATA

PURPOSE	Navigation Improvement
LOCATION	
State	Maine
County	Hancock
Town	Frenchboro (Long Island)

PHYSICAL FEATURES

Anchorage: 5 Acres, 10 feet deep below mean low water
Entrance Channel: 75 feet wide, 6 feet deep below mean low water
Anchorage and Turning Basin: 1.5 Acres, 6 feet deep below mean low water

PRINCIPAL QUANTITIES

Ordinary Material	100,000 c.y.
Rock	2,000 c.y.

ESTIMATED COSTS (1974 PRICE LEVEL)

Dredging, ordinary material	$420,000
Rock removal	115,000
Contingencies	65,000
Engineering & Design	55,000
Supervision & Administration	45,000
Total First Cost	$700,000

COST APPORTIONMENT

Federal	$700,000
Non-Federal	0

(Local interests required to provide berthing areas, access channels, public landing with access road and parking area, and remove portion of an existing pier at estimated cost of $20,000 (self-liquidating)

ECONOMIC ANALYSIS

Annual Benefits	$112,400
Annual Costs	48,000
Benefit-Cost Ratio	2.3 to 1.0

B. INTRODUCTION

1. PURPOSE. - This memorandum represents the Phase I and II post authorization reports. Approval to combine both phases of the report was received from the Office of the Chief of Engineers by letter dated 19 June 1973. Its purpose is to present an objective reassessment of the authorized project at Frenchboro Harbor and to either reaffirm the project design as authorized or to reformulate the project plan as required to meet changed conditions. It also provides engineering data of sufficient detail to serve as a basis for approval to proceed with plans and specifications and subsequent construction of the project.

2. SCOPE. - This memorandum discusses the entire project. It presents data on the project need, function, estimated costs and benefits, construction schedule, maintenance requirements and related local cooperation.

C. PROJECT AUTHORIZATION

3. AUTHORIZATION. - The Frenchboro Harbor navigation improvement project was authorized under provisions of Section 201, Flood Control Act of 1965 (P.L. 89-298) and approved by House Resolution 15 Dec. 1970 and Senate Resolution 17 Dec. 1970; Senate Document No. 32, 91st Congress, 1st Session.

4. ASSURANCES. - The Frenchboro Harbor, Maine navigation project comprises channel and anchorage improvements for the benefit of the local fishing fleet. Construction of the authorized project was recommended provided that, prior to construction, local interests give assurances satisfactory to the Secretary of the Army that they will:

a. Provide without cost to the United States, all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project, and for aids to navigation if subsequently required.

b. Hold and save the United States free from all damages which may result from the construction and subsequent maintenance of the project;

c. Provide, maintain and operate a public landing adjacent to the 10-foot anchorage and an access road to the landing, including parking facilities, open to all on equal terms;

d. Provide and maintain, without cost to the United States, depths in berthing areas and local access channels serving the public landing and other wharves adjacent to the proposed anchorages commensurate with the depths provided in the related project areas;

e. Remove without cost to the United States that portion of a privately owned pier which extends into the proposed 6-foot anchorage;

f. Establish a competent and properly constituted public body empowered to regulate the use, growth, and development of the harbor facilities, with the understanding that they will be open to all on equal terms; and

g. Establish regulations prohibiting discharge of untreated sewage, garbage, and other pollutants into the waters of the harbor by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control.

D. AUTHORIZED PLAN

5. DESCRIPTION.- The authorized project provides for dredging a 5 acre anchorage 10 feet deep below mean low water in the outer harbor, an entrance channel 75 feet wide, 6 feet deep extending from the outer harbor into the inner harbor; including dredging a 1.5 acre anchorage and turning basin, 6 feet deep in the inner harbor.

E. PROJECT AND TRIBUTARY AREA

6. LOCATION.- Frenchboro Harbor, also known locally as Lunt Harbor, is located on the northwest side of Long Island, the most southerly island of a large group of islands in Jericho Bay. Long Island lies 7 miles south of Mount Desert Island, 2 miles southeast of Swan's Island, and 100 miles by water northeast of Portland, Maine. The island, roughly circular in shape, can be inscribed in a circle with a mile and a half radius. The harbor is formed by a natural indentation surrounded by granite ledges along the northern shoreline of the island providing an embayment approximately 2400 feet long and 500 feet wide at its widest point.

Depths in Frenchboro Harbor range from 17 feet below mean low water to 5 feet above mean low water. At low water, the inner harbor is largely exposed, while the depths in the outer harbor drop off sharply from an average 3-foot depth at the outer wharves. The mean tide range is 10.2 feet with a spring tide range of 11.7 feet. Except for infrequent periods, when the wind is north-northeast, the outer harbor serves as a sheltered anchorage for the local fishing fleet.

Frenchboro has 25 inhabited homes and is the only settlement on the island. The island families keep cars on the mainland, and many of them have houses there, where they stay overnight when on a shopping or visiting trip. In 1900 the population of the settlement was 174. In 1932 it was down to 117. The present population varies from 40 to 56 persons. Lobstering, herring, seining, and long-line hake fishing provide the only means of earning a living on the island. Twenty-two locally owned boats are based in the harbor, while many transients from the mainland use the harbor as a stopping off point to and from the fishing grounds.

The chief reason for the reduction in population of this isolated island over the years has been a lack of adequate schooling and other social benefits which are enjoyed by mainland residents. The town has no doctor, lawyer, resident clergyman, bar, restaurant, store, bowling alley, movie theatre or jail. Despite the advantages that off-islanders have, there is no poverty among the residents severe enough to warrant public assistance. The lack of social advantages enjoyed by mainland residents has caused many of the younger people to leave the island. The remaining residents are fully employed in the fishing industry. Lobsters, herring and hake fishing are the principal commercial activities. The catch is shipped by carrier vessels to mainland ports for distribution in the retail markets.

F. CURRENT NEEDS AND DEVELOPMENT OBJECTIVES

7. DREDGING. - During pre-authorization studies, a public hearing was held on the mainland in the town of Tremont on 7 June 1966 to determine the nature and extent of improvements desired by local interests. The hearing was attended by about 35 people including representatives of the State and local governments, fishing industry, business interests and other residents of Frenchboro.

They requested that the outer harbor be dredged to a depth of 10 feet and the inner harbor to 8 feet. Most of the fishing fleet is crowded together in available deep water at the entrance where the boats are exposed to storm damage, others are grounded out on the bottom of the shoaled inner harbor during the lower tide

stages. Local fishermen claim the desired improvement would eliminate most storm damage and tidal delays, resulting in increased fish catch. Fishing operations are severely hampered by the shoal conditions and there is no other means of livelihood available to the island residents. Local residents feel that with an improved harbor they will be able to entice mainland fishing enterprises to locate a processing plant on the island.

During post authorization studies, an additional public meeting was held on the mainland in the town of Bernard on 28 February 1974 to present in detail the authorized project. The hearing was attended by about 35 people including representatives of the State and local governments, fishing industry, business interests and other residents of Frenchboro. All present were in concurrence that the authorized project as presented would benefit the commercial fishing and meet the needs of local interests.

G. ALTERNATIVES

8. CONSIDERED IMPROVEMENTS. - Breakwater protection in lieu of dredging the harbor was considered again but was found to be more costly than dredging and would not provide sufficient protection to the local fishing fleet or attract lobster fishermen to the harbor for access to shore facilities, or eliminate tidal delays. More than half of the wharves are located in the inner harbor and all berthing areas in the inner harbor are exposed at mean low water.

Alternate layouts for providing additional anchorage were considered in the preauthorization and post authorization studies. These were found to be more costly than the authorized plan due to the narrow configuration of the shoreline and the presence of considerable ledge outcrops which would involve expensive rock removal and would not be economically justified.

H. INVESTIGATIONS

9. PREVIOUS INVESTIGATIONS - Frenchboro Harbor was the subject of a Federal study in 1936 to determine the need and justification for constructing a rubble mound breakwater extending from the eastern shore just outside the entrance to the harbor. An unpublished report, dated 12 May 1936, indicated that this improvement was not economically justified at that time.

A detailed hydrographic survey, consisting of soundings and probings, was taken in September 1967 and August 1968 which was used to formulate the Survey Report dated 27 September 1968.

10. POST-AUTHORIZATION INVESTIGATIONS. - The project site was explored in November 1973 to determine the presence or absence of hard materials and types of materials to be encountered by taking piston core samples,

machine probings and drive sample borings. From these samplings and previous survey data, it was determined that approximately 95 percent of the material consists of mud, sand and gravel, with the remainder of the material as ledge rock. Most of the material is poorly consolidated and is expected to be relatively easy digging. Data indicates that ledge rock will be encountered in the entrance channel leading to the inner anchorage in the harbor. Location of probings and graphic logs of the drive sample borings are shown on the maps accompanying this report. Environmental sampling and test results are included in the Environmental Impact Statement accompanying this report.

I. PLAN FORMULATION

11. GENERAL - The prime purpose for navigation improvement in Frenchboro Harbor is to improve the existing natural anchorages in the harbor, alleviate anchorage congestion, tidal delays and storm damage. In the preauthorization phase, consideration was given to the plan of improvement to a depth of 8 feet in the inner harbor. Dredging of either the inner or outer harbors alone would not provide sufficient space to accommodate all of the craft expected to use the harbor. Because of the long and narrow configuration of Frenchboro Harbor, development of a satisfactory anchorage in the inner harbor is difficult to attain. Most of the landings are strung out along both banks, leaving only a narrow fairway clear of ledges at the ends of the piers, particularly in the upper half of the inner harbor. As a result, any anchorage or turning basin in the inner harbor would, of necessity, be limited to the 1-5 acre behind the large ledge outcrop in the center of the harbor. This ledge would serve as a natural barrier to wave action from the outer harbor. The maximum area and optimum depth considered to be needed and justified, developed in the preauthorization study and confirmed in the post-authorization phase would provide a 5.0-acre anchorage, 10 feet deep, in the outer harbor entrance and a channel 75 feet wide, 6 feet deep, leading into a 1.5-acre anchorage and turning basin 6 feet deep in the inner harbor. Further enlargement of the channel or anchorages would involve expensive rock removal and would not be economically justified under present conditions. Fishing boats that use the inner harbor draw a maximum of 4 feet of water. The deeper draft herring carriers, ferry and coastal oil tanker use the outer harbor where a 10-foot depth would be provided. Although eighty percent of the lobster fishing fleet draw less than 5 feet, they would have to be moored in the outer harbor where most of the anchorage area is available due to the area limitations of the inner harbor. A depth of 10 feet is considered necessary in lieu of a normally prescribed depth of 8 feet because of the ground swells which sometimes reflect into the outer harbor, causing a substantial rise and fall of the vessels. Also, during the herring season several carriers drawing 7 to 8 feet anchor among the local craft. The added depth will also help in setting seines in the harbor during herring runs.

J. COORDINATION

All Federal, State and local agencies having an interest in Frenchboro Harbor were consulted during the preauthorization study phase concerning the effects of the plan of improvement on their activities. The views of these interest groups were given full consideration and upon completion of the study these groups concurred in the plan recommended by the Division Engineer.

The post authorization plans were presented at the public meeting held 28 February 1974. Most of the coordination with the various Federal, State and local interests concerned environmental considerations, scheduling of construction and location of an acceptable disposal area for the dredged material. Comments of the various Federal and State agencies and approval of the dump site are contained in Appendix A.

K. ENVIRONMENTAL ANALYSIS

The actual deepening of the harbor to its project depths by bucket dredging could have a minor adverse impact to the fish life and fish habitat but the impact, if any, will be temporary. This stems from the increased level of turbidity which will take place during the dredging process. The removal of dredged material may also bring about a small reduction in the nutrients needed to sustain fish and shellfish but like the turbidity problem it would be minor and of relatively short duration.

Dredging of private local berths and access channels to a depth commensurate with project depth will have an effect similar to that described above. It is probable that since quantities are much smaller the effect will be considerably reduced.

The dumping ground was originally selected with the cooperation of the fishing interests and approved by Federal and State officials. This is an area with a mud bottom and depths from 100 to 116 feet. Disposal of dredged material at this area may have some adverse environmental impacts on marine life, however, these impacts are expected to be of a temporary and minor nature also.

L. PROJECT PLAN

12. GENERAL. - In view of the restricted area within the shoreline configurations and the extensive rock ledge outcrops, the maximum area of development and the most practical and optimum plan of navigation improvement considered would provide for a 5-acre anchorage 10 feet deep in the outer harbor and an entrance channel 75 feet wide, 6 feet deep, leading into a 1.5-acre anchorage and turning basin

6 feet deep in the inner harbor. The plan would eliminate congestion caused by anchoring boats in the available deep water at the entrance to the harbor. It would also eliminate tidal delays, reduce boat damages, add to the natural protection offered by the harbor from storms and provide space for immediate expansion of the locally based fishing fleet.

Dredging quantities are based on in place measurement and provide for removal of material to project depths plus an allowance of one foot overdepth with side slopes of one vertical to three horizontal. An allowance of two feet of overdepth would be included where ledge is expected to be encountered.

Nearly all of the materials except ledge could be removed by hydraulic dredging. However, due to the absence of a suitable onshore spoil disposal site within reach of the harbor and the fact that some of the hard materials must be removed by systematic drilling and blasting, it is considered most economical to remove all of the material by bucket dredging methods with scow disposal in an offshore dumping ground.

13. DISPOSAL AREA. - An offshore dumping ground located between John Island and Long Island about 1.5 miles west of Frenchboro Harbor was selected by the local fishing interests and approved by all concerned Federal and State officials. State fishery agencies are planning to monitor the disposal operations. The center of the dumping ground is located at a point, bearing 216° True, 1.3 nautical miles from John Island ledge buoy, and bearing 302° True, 1.2 nautical miles from buoy R-"2" gong marking a shoal south of Swans Island. Depths within the 1/2 mile square dumping ground range from 100 to 116 feet.

M. COST ESTIMATES

14. FIRST COSTS. - Unit prices used in estimating project construction cost are based on labor and construction prices adjusted to the 1974 price level. Quantity estimates are based on hydrographic surveys, probings and borings made in 1973, supplemented by previous data obtained during the survey report study. It was assumed, from these estimates, that the material would be removed by bucket dredge, placed in scows and hauled to the previously described dumping ground. The total estimated amount of material to be removed is 100,000 cubic yards of mud, sand and gravel and 2000 cubic yards of ledge rock. All construction costs include an allowance of 12% for contingencies. Costs of engineering and design and of supervision and administration are estimated lump sums based on experience, knowledge and evaluation of the site and project, and comparison with similar projects in the general area. The total first cost of the project is estimated at $700,000.

A summary of current costs for project features is given in Table 1 and a comparison of estimate costs is given in Table 2.

15. ANNUAL CHARGES - Average annual charges also summarized in Table 1, are based on total investment costs including interest during construction and an interest rate of 5-5/8 percent amortized over the 50-year assumed economic life of the project. Allowances are made for costs of maintenance and operation based on an average annual shoaling rate of 1500 cubic yards, due to the small watershed surrounding the harbor and the relatively hard material of the offshore bottom.

TABLE 1

SUMMARY OF COSTS AND ANNUAL CHARGES
(1974 Price Level)

Project Features	Estimated Cost
Dredging, ordinary material. 100,000*c.y. @ $4.20	$420,000
Rock Removal. 2000**c.y. @ 57.50	115,000
Contingencies	65,000
	$600,000
Engineering & Design	55,000
Supervision & Administration	45,000
Total Estimated First Costs	$700,000
Annual Charges	
Interest & Amortization (.06015 x 700,000)	42,100
Maintenance & Operation	5,900
TOTAL ANNUAL COSTS	$ 48,000

* Includes 15,000 c.y. of 1-foot allowable overdepth dredging
** Includes 300 c.y. of 2-foot allowable overdepth dredging

16. COST APPORTIONMENT. - No land acquisition is involved in the project. First costs to local interests estimated at $20,000 would be construction of a public landing adjacent to the 10-foot anchorage, an access road to the landing, improvements of berthing areas and local access channels, and removal of a portion of the privately owned pier which extends into the proposed 6-foot anchorage. These costs which are items of local responsibility are considered to be self-liquidating. The Federal first cost of the project is estimated at $700,000. Annual costs for maintenance and operation of the project which is a Federal responsibility is estimated at $5,900.

17. COMPARISON OF ESTIMATES. The current cost estimate of $700,000 reflects an increase of $140,000 since the last reported estimate contained in the survey report study.

TABLE 2

COMPARISON OF ESTIMATES

Project Feature	Project Document 1968	PB-3 July 1973	Recommended Project Plan July 1974	Change
Dredging-Ordinary Material- 100,000 cy (Includes 12% Contingincy)	$ 373,940	$ 520,000	$ 470,000	-$ 50,000
Rock Removal - 2,000 cy (Includes 12% Contingincy)	115,060	165,000	130,000	- 35,000
Engineering & Design	30,000	80,000	55,000	- 25,000
Supervision and Administration	41,000	85,000	45,000	- 40,000
TOTAL COST	$ 560,000	$ 850,000 (1)	$ 700,000 (2)	-$150,000

(1) The cost increase in construction features was based on price escalation from 1968 to 1973. The E&D and S&A cost increases were due to reanalysis of requirements, overhead and Federal pay increases.

(2) Changes in Recommended Project Plan costs from PB-3 are based on evaluation of current unit prices obtained from bids received in the region and close proximity of the disposal area to the project site.

N. BENEFITS

18. BENEFITS. - The plan of improvement for Frenchboro Harbor would provide the maximum area possible for safe anchorage within the harbor without the costly removal of ledge outcrops. Taking into consideration allowances for tidal range and wave action, the authorized improvement would provide space for approximately 35 fishing boats.

Because of the shoal areas within the harbor, landing of the fish catches during low tide is a major problem. To avoid grounding at low water the local fishing fleet must of necessity be moved in a small congested group in the outer harbor. These conditions cause fishermen great inconvenience resulting in lost fishing time, reduced catches, extensive damage to both boats and lobster holding cars due to collisions while moored and have limited the growth and development of the fishing resources.

Local lobstermen have indicated that each of the 22 boats in the local fleet has suffered some form of damage averaging between $400 and $500 each year based on current costs of repair. This damage is caused by grounding out on the shoal bottom or smashing into other boats due to the limited area for moorings. Lobster holding cars and dories containing seining nets have suffered similar damages. As many as ten seiners, operating a total of 36 net holding boats of various sizes, operate in the immediate area of Frenchboro during the peak of the fishing season. This large fleet of vessels causes a serious congestion in the outer harbor. A critical situation arises when 5 to 17 herring carriers arrive to pick up fish for delivery to mainland canneries. Because the vessels must anchor outside the harbor in unprotected waters in close proximity to other vessels they, too, experience damage, estimated at $1,000 annually. If dredging of the harbor was accomplished a somewhat crowded condition would still exist at the height of the fishing season. However, it is expected that damages would be reduced by at least 50 percent, which would represent a savings of $10,000 per year.

It has been reported that tidal delays prevent fishermen from leaving the harbor to bring in their traps, which are set in exposed areas around the island, prior to severe seasonal storms. This inability to reach their traps in time has resulted in losses amounting to an average of 25 traps per fisherman, representing an annual loss of at least $7,000.

The Federal Fish and Wildlife Service in its updated post-authorization report on the navigation improvement project for Frenchboro Harbor, states that the latest figures on annual lobster landings indicate that about 8,000 pounds of lobsters per boat or

a total of about 180,000 pounds valued at $262,800 are caught by the locally based fleet. Of this total approximately 140,000 pounds are brought into Frenchboro. The remaining 40,000 pounds are delivered elsewhere, primarily at McKinley, on the mainland, due to a lack of facilities and shallow depths in Frenchboro Harbor. With improvement of the harbor, it is expected that the 40,000 pounds of lobster now landed at other ports will be brought into Frenchboro. This amount is not evaluated as a benefit since the price received for the lobsters would be the same at all locations. Only a small savings in transportation cost would be realized.

Additional mooring space provided by improvement would induce four lobstermen, not now fishing out of Frenchboro, to return, adding their total average catch of 32,000 pounds to the local market. It is expected that with elimination of tidal delays through improved navigation conditions, the lobster landings will increase by ten percent, representing 21,200 pounds. At a dockside value of $1.46 per pound, the added catch represents $31,000. With additional operating costs of 60 percent of the value of the catch, the net annual benefit would be $12,400.

The annual herring catch would be increased by allowing better attendance of seines on a regular basis. Thousands of bushels of herring are lost each season because seines set in the large coves on the seaward side of the island cannot be tended properly. Large schools of herring enter Frenchboro Harbor. Under present conditions nets are set through the center of the mooring area to catch these fish. This method of operation is clearly an inconvenience to the operators of the local lobster boats and to herring fishermen. Improvement of the harbor would provide more space for seining. There will also be a reduction in tidal delays by herring carrier vessels picking up fish for delivery for the mainland. The increased annual herring catch that would be landed is estimated to amount to 250,000 pounds valued at $9,400.

The hake fishing industry would benefit on the basis of eliminating the tidal delays. Seven boats are engaged in this business, with the fish being taken by long line during a period of about 4 months a year. Improved navigation conditions will allow approximately 30 additional days of fishing per year. Increased fishing time would result in an additional catch of an estimated 4,000 pounds of fish per boat per fishing day or 840,000 pounds of hake. The projected value of hake as reported by the U.S. Fish and Wildlife Service is ten cents per pound, resulting in an average annual value of $84,000. With an operating cost of 60 percent of the value of the catch, the net benefit would amount to $33,600 annually. No benefits have been taken for a processing plant which local residents claim could be built following improvement of the harbor.

In addition to the above described benefits to the local fishing industry seven scallop boats have been added to the fleet. This fishery has developed in the local area since submission of the survey report. Local fishermen feel confident that between 40,000 and 50,000 pounds of scallops could be harvested annually if the harbor navigation is improved. This fishery resource is valued in excess of $100,000 annually. Net benefits are taken as 40 percent of the gross value or $40,000.

19. SUMMARY OF BENEFITS. - A summary of estimated annual benefits which are expected to result from the authorized improvement project is as follows:

Benefit Category	Amount
Reduced Boat Damages	$10,000
Reduced Loss of Lobster Traps	7,000
Increased Lobster Catch	12,400
Increased Herring Catch	9,400
Increased Hake Catch	33,600
Scallop Catch	40,000
TOTAL AVERAGE ANNUAL BENEFITS	$112,400

O. LOCAL COOPERATION

20. GENERAL. - Local interests will be required to provide the items of local cooperation as recommended in the authorizing document and included in Paragraph 4 of this report.

21. LOCAL ASSURANCES. - A request for formal assurances from the Town of Frenchboro and the State of Maine will be made after the approval of the General Design Memorandum. Construction of the Frenchboro Navigation Improvement Project will require non-Federal interests assurances imposed by the authorizing document satisfactory to the Secretary of the Army that they will:

a. Provide, without cost to the United States, all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project, and for aids to navigation if subsequently required.

b. Hold and save the United States free from all damages which may result from the construction and subsequent maintenance of the project.

c. Provide, maintain, and operate a public landing adjacent to the 10-foot anchorage, and an access road to the landing, including parking facilities, open to all on equal terms.

d. Provide and maintain, without cost to the United States, depths in berthing areas and local access channel serving the public landing and other wharves adjacent to the proposed anchorages commensurate with the depths provided in the related project areas.

e. Remove without cost to the United States that portion of the privately owned pier which extends into the proposed 6-foot anchorage.

f. Establish a competent and properly constituted public body empowered to regulate the use, growth, and development of the harbor facilities, with the understanding that they will be open to all on equal terms; and

g. Establish regulations prohibiting discharge of untreated sewage, garbage, and other pollutants into the waters of the harbor by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control.

22. VIEWS OF LOCAL INTERESTS. - Meetings have been held with local officials to keep them informed of the navigation features of the project, to exchange ideas, and to keep them informed of the total estimated project cost and non-Federal costs. The general plan, project features, and project costs were outlined and discussed at the Public Meeting held on 28 February 1974 in Bernard, Maine.

Officials of the Town of Frenchboro and the State of Maine have expressed their intentions and willingness to cooperate and participate in the navigation project by their letters of concurrence included in Appendix A.

P. DEPARTURES FROM THE AUTHORIZED PLAN

The present project plan is the same as that recommended in the authorizing document and authorized by Congress. With the exception of refinement of the project cost estimates, completed during the planning phase, no changes in the document project plan have been made. Overdepth allowances presently contemplated are the same as those in the authorizing document.

Q. SCHEDULE FOR DESIGN AND CONSTRUCTION

The project for the improvement of Frenchboro Harbor will be accomplished under two contracts. It is proposed to contract for

removal and disposal of all material except rock under an initial contract. The removal and disposal of rock is proposed to be accomplished under a second contract.

Improvement of the anchorages and channel involves about 100,000 cubic yards of ordinary material (principally mud, sand and gravel) and 2,000 cubic yards of rock. Time required for completion of work under the initial contract is 4 months.

Plans and specifications for the second contract for rock removal will be issued as soon as practicable after removal of all overlying materials from the rock areas is complete and the volume of rock to be removed is determined. Time required for the rock removal operations based on the present estimated quantity is 2 months. Funds to initiate construction are included in the President's FY 1975 Budget. Present project schedule, which is contingent on timely receipt of local assurances is as follows:

	1st Contract	2nd Contract
Issue plans and specifications	Jan. 1975	Jan. 1976
Open bids	Feb. 1975	Feb. 1976
Award contract	Mar. 1975	Mar. 1976
Start construction	Apr. 1975	Apr. 1976
Complete construction	Aug. 1975	Jun. 1976

Time required for completion of the entire project is 18 months.

Fund requirements for the above schedule is as follows:

Allotted to 30 June 1974	$ 85,000
Fiscal Year 1975	200,000
Fiscal Year 1976	415,000

R. OPERATION AND MAINTENANCE

Maintenance of the project is a Federal function and will consist of periodic dredging to restore project depths within the limits of the Federal project. The estimated additional annual maintenance quantities are based on a shoaling rate of 1500 cubic yards per year, with the additional annual maintenance cost estimated at $5,900.

S. STATEMENT OF FINDINGS

As Division Engineer for the New England Division, I have reviewed and evaluated, in light of the overall public interest, all pertinent data concerning the proposed construction of the authorized

Federal navigation improvement project at Frenchboro Harbor, Long Island Plantation, Maine. Elements considered in this review included engineering feasibility, environmental impacts, stated views of other interested agencies and the concerned public, and economic-social factors relative to the various practicable alternatives in providing a safe access and mooring area for commercial fishermen operating in Frenchboro Harbor.

The aspects and possible consequences of alternatives have been studied in detail and have already been discussed in length in the formulation of the plan of improvement. In the analysis which I have made I find no alternative plan or combination of alternative plans which would fulfill the requirements of the authorized project to the same extent as the proposed plan. In summary, there are substantial benefits to be derived from providing local fishermen with a deeper mooring area and a public landing, utilizing all of the harbor to extent recommended in the proposed plan as this is the largest area which could be economically provided.

It is noted that the improvement would cause a minor disruption of the environment during dredging through temporary turbidity at the construction site. Due to the dependence of the local economy on the fishing industry, it is considered that these adverse environmental effects would be more than offset by improvement in the economic growth of the area.

I find that the proposed action as developed in the RECOMMENDATIONS" is based on thorough analysis and evaluation of various practicable alternative courses of action for achieving the stated objectives; that wherever adverse effects are found to be involved they cannot be avoided by following reasonable alternative courses of action which would achieve the Congressionally specified purposes; that where the proposed action has an adverse effect, this effect is either ameliorated or substantially outweighed by other considerations. The recommended action is consonant with national policy, statutes and administrative directives and on balance, the total public interest should best be served by the implementation of the recommended proposal.

T. ENVIRONMENTAL STATEMENT

Final Environmental statement, prepared in compliance with the National Environmental Policy Act of 1969 (PL90-190), updated and fully coordinated is included as a separate document.

U. RECOMMENDATIONS

The plan of improvement proposed in this design memorandum provides for:

Dredging a 5 acre anchorage 10 feet below mean low water in the outer harbor; an entrance channel 75 feet wide, 6 feet deep extending from the outer harbor into the inner harbor; including dredging a 1.5 acre anchorage and turning basin, 6 feet deep in the inner harbor.

The plan is the same as that recommended in the authorizing document and authorized by Congress. This project plan will serve adequately the present and prospective needs of the harbor and is economically justified.

4 Incl
1. Project Maps
2. Spoil Area Map
3. Appendix "A" Letters of Comment and Concurrence
4. Environmental Impact Statement

CORPS OF ENGINEERS

U. S. ARMY

G H

1 2 3

E336,000 N105,000 E335,000 N106,000

N104,000 E336,000

N103,000 E335,000 E337,000 N104,000 N105,000

IMPROVEMENT RECOMMENDED
CHANNEL-75 FEET WIDE, 6 FEET DEEP
ANCHORAGES: 5.0 ACRES, 10 FEET DEEP
1.5 ACRES, 6 FEET DEEP

10 FOOT DEPTH CONTOUR

FRENCHBORO HARBOR

10-FT. ANCHORAGE

6-FT. ENTRANCE CHANNEL

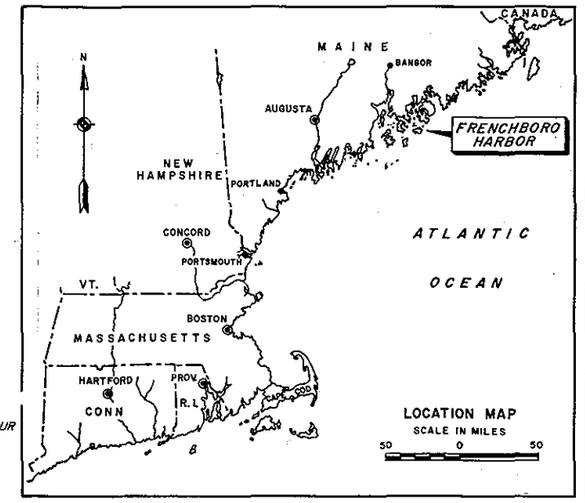
6-FT. ANCHORAGE

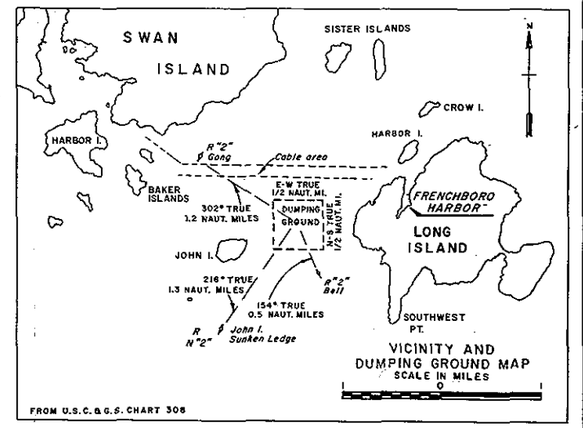
PORTION OF EXISTING WHARF TO BE REMOVED

FRENCHBORO

PLAN
SCALE IN FEET
100 0 100 200 300

NOTE:
Soundings are in feet and tenths and are referred to the plane of mean low water.





REVISION	DATE	DESCRIPTION	BY

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MASS.

DR. BY	TR. BY	CK. BY
R.D.B.	R.D.B.	AP

SUBMITTED:
PROJECT ENGINEER
REVIEWED
CHIEF, NAV. & R.E. SECTION
APPROVAL RECOMMENDED
CHIEF, TECH. ENG. BRANCH

FRENCHBORO HARBOR
LONG ISLAND PLANTATION
MAINE
IMPROVEMENT DREDGING
10-FT. ANCHORAGE, 6-FT. CHANNEL & ANCHORAGE
DESIGN MEMO-GENERAL PLAN

APPROVED
DATE JULY 1974
CHIEF, ENGINEERING DIVISION

TO ACCOMPANY
DESIGN MEMORANDUM
DATED 26 JULY 1974

SCALE 1"=100'

DRAWING NUMBER
2001 D-3-4

SHEET 1 OF 2

CORPS OF ENGINEERS — U. S. ARMY

LIST OF PROBINGS

NUMBER	DEPTH OF WATER (ELEVATION BELOW M.L.W.)	DEPTH OF PROBE (ELEVATION BELOW M.L.W.)	PENETRATION	REMARKS
1	1.6	10.0	8.4	Gravel
2	1.9	10.0	8.1	"
3	2.0	10.0	8.0	Coarse gravel
4	+5.5	+5.5	0.0	Ledge
5	1.0	10.0	9.0	Gravel
6	+0.3	6.7	7.0	Mud-gravel-refusal
7	+0.9	10.0	10.9	" "
8	+1.9	10.0	11.9	" "
9	+3.0	10.0	13.0	" "
10	+2.8	5.1	7.9	" "
11	+2.8	10.0	12.8	" "
12	+3.2	5.9	9.1	Mud-gravel-refusal
13	+3.8	6.5	10.3	" " "
14	+4.9	10.0	14.9	" "
15	+5.0	8.7	13.7	" " "
16	+5.0	10.0	15.0	" " "
17	+5.7	10.0	15.7	Mud
18	+6.7	10.0	16.7	"
19	7.1	10.0	2.9	Gravel
20	7.2	9.0	1.8	Refusal
21	8.3	10.0	1.7	Coarse gravel
22	8.1	10.0	1.9	Refusal
23	5.5	7.7	2.2	Gravel-refusal
24	6.8	10.0	3.2	Gravel
25	3.8	10.0	6.2	"
26	3.2	10.0	6.8	"
27	2.4	10.0	7.6	Sand

LIST OF PROBINGS

NUMBER	DEPTH OF WATER (ELEVATION BELOW M.L.W.)	DEPTH OF PROBE (ELEVATION BELOW M.L.W.)	PENETRATION	REMARKS
28	6.5	6.8	0.3	Coarse gravel
29	5.3	7.1	1.8	" "
30	4.8	7.1	2.3	" "
31	5.0	6.8	1.8	" "
32	2.9	5.4	2.5	" "
33	6.1	13.4	7.3	Sand
34	2.8	4.1	1.3	Coarse gravel
35	4.2	12.5	8.3	Sand
36	1.0	2.7	1.7	Gravel
37	2.0	4.4	2.4	Coarse gravel
38	3.5	12.3	8.8	Sand
39	0.1	2.8	2.7	Coarse gravel
40	1.1	3.0	1.9	Coarse gravel & sand
41	2.2	12.0	9.8	Sand
42	0.0	1.0	1.0	Coarse gravel
43	1.0	1.2	0.2	" "
44	2.3	12.0	9.7	Gravel to sand
45	2.3	12.0	9.7	Sand
46	0.1	5.9	5.8	Coarse gravel
47	0.9	6.9	6.0	Sand to gravel
48	0.9	5.0	4.1	" " "
49	1.0	6.9	5.9	Sand to boulders
50	1.2	12.0	10.8	Sand, mud & gravel
51	0.0	1.7	1.7	Sand to ref. or rock
52	0.4	2.4	2.0	Hard sand
53	+0.5	2.6	3.1	" "
54	+0.5	3.6	4.1	Sand to gravel
55	0.0	8.1	8.1	Sand to clay

LIST OF PROBINGS

NUMBER	DEPTH OF WATER (ELEVATION BELOW M.L.W.)	DEPTH OF PROBE (ELEVATION BELOW M.L.W.)	PENETRATION	REMARKS
56	+2.2	8.4	10.6	Sand & clay
57	+0.5	3.1	3.6	Sand
58	+2.6	6.7	9.3	Sand & mud
59	+2.8	3.9	6.7	Sand
60	+1.3	2.8	4.1	Sand
61	+1.0	5.9	6.9	Sand
62	+0.7	5.2	5.9	Sand
63	+2.4	2.7	5.1	Sand
64	+2.3	4.9	7.2	Sand
65	+1.7	2.9	4.6	Sand
66	+1.7	6.2	7.9	Sand
67	+2.8	4.3	7.1	Fine gravel
68	+1.8	4.0	5.8	Sand
69	+1.9	4.6	6.5	Sand
70	+2.7	5.0	7.7	Sand
71	+2.5	5.1	7.6	Sand

PROBING NOTES:

Probes shown thus: ● P-(No.)

Probes 1-27 taken by water jet to 10' below M.L.W. (Sept. 1967)

Probes 28-71 taken by two men forcing down a 1" bar. When grade was not obtained the material was to dense for further hand penetration and no hammer or jet pump was used (Aug. 1966)

MACHINE, PROBES

FP-1 +3.8	FP-1A	FP-2 -3.5	FP-3 -2.2	FP-4 -0.8	FP-5 0.0	FP-6 +2.8	FP-7 +2.8	FP-7A +1.1	FP-8 +2.8	FP-9 +2.2	FP-10 +1.2	FP-11 +2.5	FP-12 +0.6	FP-13 +1.0	FP-14 +0.4	FP-15 0.0	FP-16 -0.2	FP-17 -1.5	FP-18 -1.0	FP-19 +1.7	PENETRATION IN FEET
3	NO DATA	3	8	7	7	1	5	2	4	3	3	3	2	1	1	5	13	3	1	3	1
3		6	8	9	10	1	6	3	18	4	2	3	5	2	2	15		7	3	1	2
1		4	11	10	3	2	12	3	6	4	3	5	3	2	3	35	R. El.-1.2	7	4	1	3
2		3	4	7	3	4	9	6	1	4	3	8	5	1	6	R. El.-2.4		14	4	3	4
2		6	7	6	1	6	5	20	1	3	3	5	15	5	19			15	4	8	5
3		1	2	2	1	8	9	24	1	1	5	15		17	14			105	14	37	6
6		2	1	1	1	8	8	25	5	3	6	50	R. El.-4.1	23	10			106	25	12	7
12		1	3	3	2	10			11	3	10	R. El.-3.6		20	79			67	37	7	8
15		4	3	4	2	12		R. El.-5.3	22	2	15			10	R. El.-7.0			75	17	10	9
30		5	3	3	3	11	R. El.-4.2			2	24			17				R. El.-9.9	50	26	10
20				5	8	10			R. El.-5.6	3	28			50					R. El.-10.5	15	11
21				15	10	15				2	24			R. El.-9.1						50	12
										4										R. El.-9.5	13
										5											14
																					15

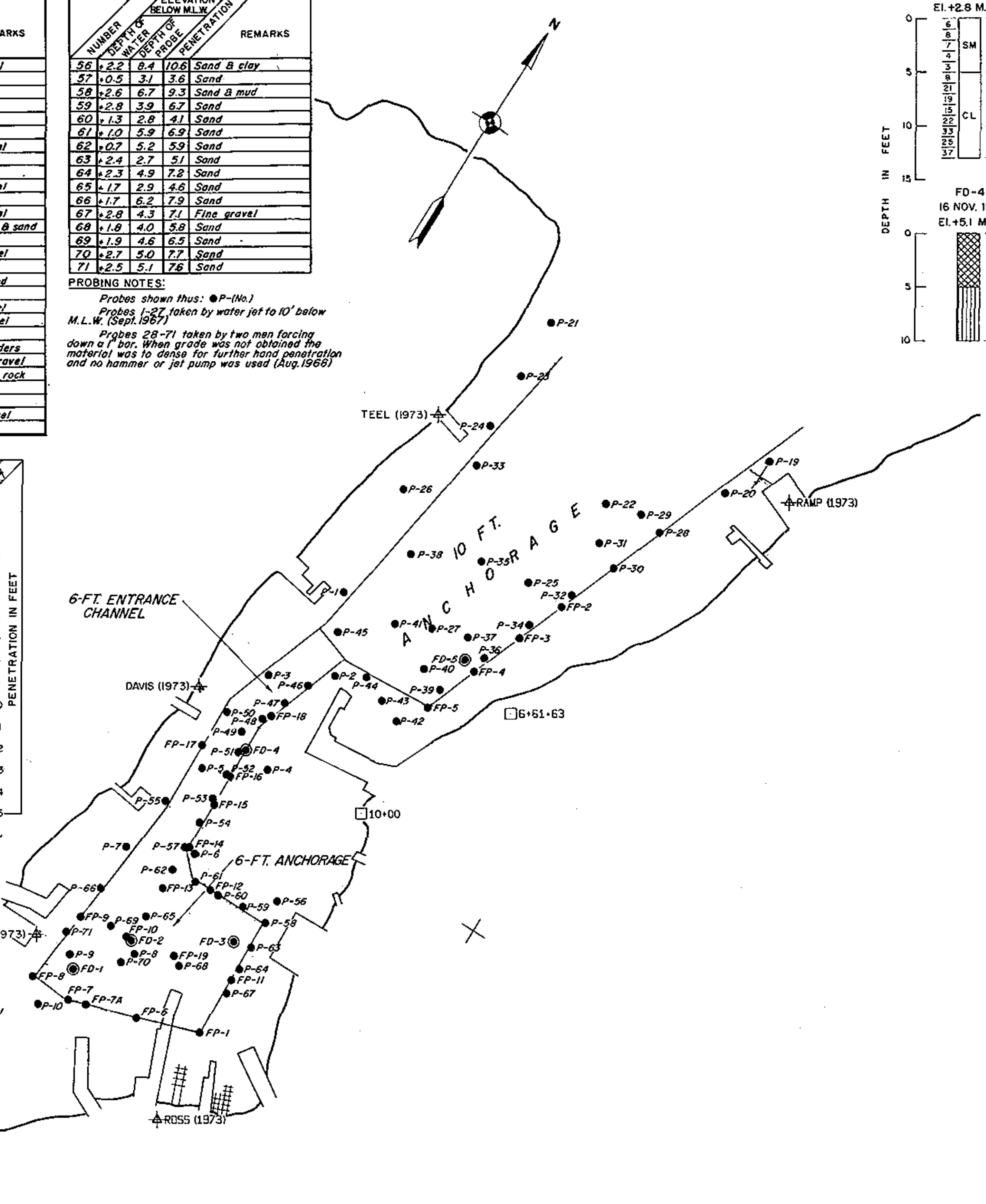
MACHINE PROBING NOTES:

Probings made by advancing "AW" rod by impact of 350 lb. hammer falling 18" (Oct.-Nov. 1973).

Figures in columns indicate number of blows required.

Probes shown thus ● FP (No.)

R = Refusal



GRAPHIC LOGS

SCALE 1" = 5'

DEPTH IN FEET

FD-1 — 15 NOV. 1973 — El. +2.8 M.L.W.

Blows	Symbol	Description
6, 8, 7, 4, 3	SM	Silty SAND w/shells & occasional gravel
8, 21, 19, 15, 22	CL	Sandy CLAY
33, 25, 37		Sandy CLAY w/occasional gravel

FD-2 — 15 NOV. 1973 — El. +2.0 M.L.W.

Blows	Symbol	Description
5, 4, 5, 5, 5	SM	Silty SAND w/shells & occasional gravel
6, 5, 7, 6, 6	CL	Sandy CLAY
7, 7		CLAY

FD-3 — 15 NOV. 1973 — El. + 1.7 M.L.W.

Blows	Symbol	Description
4, 5	SM	Silty SAND w/shells & occasional gravel
2, 2, 4, 4, 5, 7, 11, 13	CL	CLAY
15, 17	SC	Gravelly clayey SAND Till-like

FD-4 — 16 NOV. 1973 — El. +5.1 M.L.W.

El. +5.1 M.L.W.

GRANITE, Light pink to gray, very hard unweathered, w/ heavy oxide coating on open joints, highly fractured by 90° and 70° joint set 0.0 to 3.0'. Random spaced steeply dipping joints 3.0' to 10.0'.

FD-5 — 16 NOV. 1973 — El. −1.5 M.L.W.

Blows	Symbol	Description
6, 11, 9, 13, 6	GP GM	Silty sandy GRAVEL w/organic odor
1, 1, 1, 3, 3	ML	Sandy ORGANIC SILT w/organic odor, trycots

BORING NOTES:

Normal length of continuous drive of sampling spoon is 5.0 feet. Penetration resistance of sampling spoon increases with length of drive, and blow counts, therefore, generally increase correspondingly except where distinct changes in material occur within the length of drive. In gravels, sands and gravels, and some glacial tills, the presence of coarse gravel, cobble or boulder sizes causes the blow count to become erratic, and therefore may not be indicative of the degree of compaction.

While the explorations are representative of subsurface conditions at their respective locations and for their respective vertical reaches, local variations characteristic of the overburden and rocks of this region are anticipated and, if encountered, such variations will not be considered as differing "materially" from represented conditions.

LEGEND FOR GRAPHIC LOGS

- FD (No.) — *Test boring designation*
- DATE — *Date exploration completed*
- ELEV. — *Mean low water elev. of top of boring*
- SP — *Group letter symbol according to Unified Soil Classification System.*
- 7 — *Number of blows per foot of penetration using a 350 pound hammer falling freely an average of 18" on a standard sample spoon equipped with a bevelled and sharpened drive shoe.*
- El. 0.0 M.L.W. — *Elevation of Bedrock Surface.*
- *0-25% Rock Core Recovery*
- *25-50% Rock Core Recovery*
- *50-75% Rock Core Recovery*
- *75-90% Rock Core Recovery*
- *90-100% Rock Core Recovery*

SAFETY PAYS

GRAPHIC SCALES

1" = 100' : 100' 0 100' 200'

1" = 5" : 5' 0 5' 10'

REVISION	DATE	DESCRIPTION	BY

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MASS.

DR. BY R.D.B. | TR. BY R.D.B. | CK. BY AD

SUBMITTED: PROJECT ENGINEER
REVIEWED: CHIEF, NAV. & B. E. SECTION
APPROVAL RECOMMENDED: CHIEF, TECH. ENG. BRANCH

FRENCHBORO HARBOR
LONG ISLAND PLANTATION
MAINE
IMPROVEMENT DREDGING
10-FT. ANCHORAGE, 6-FT. CHANNEL & ANCHORAGE
DESIGN MEMO-PROBINGS AND BORINGS

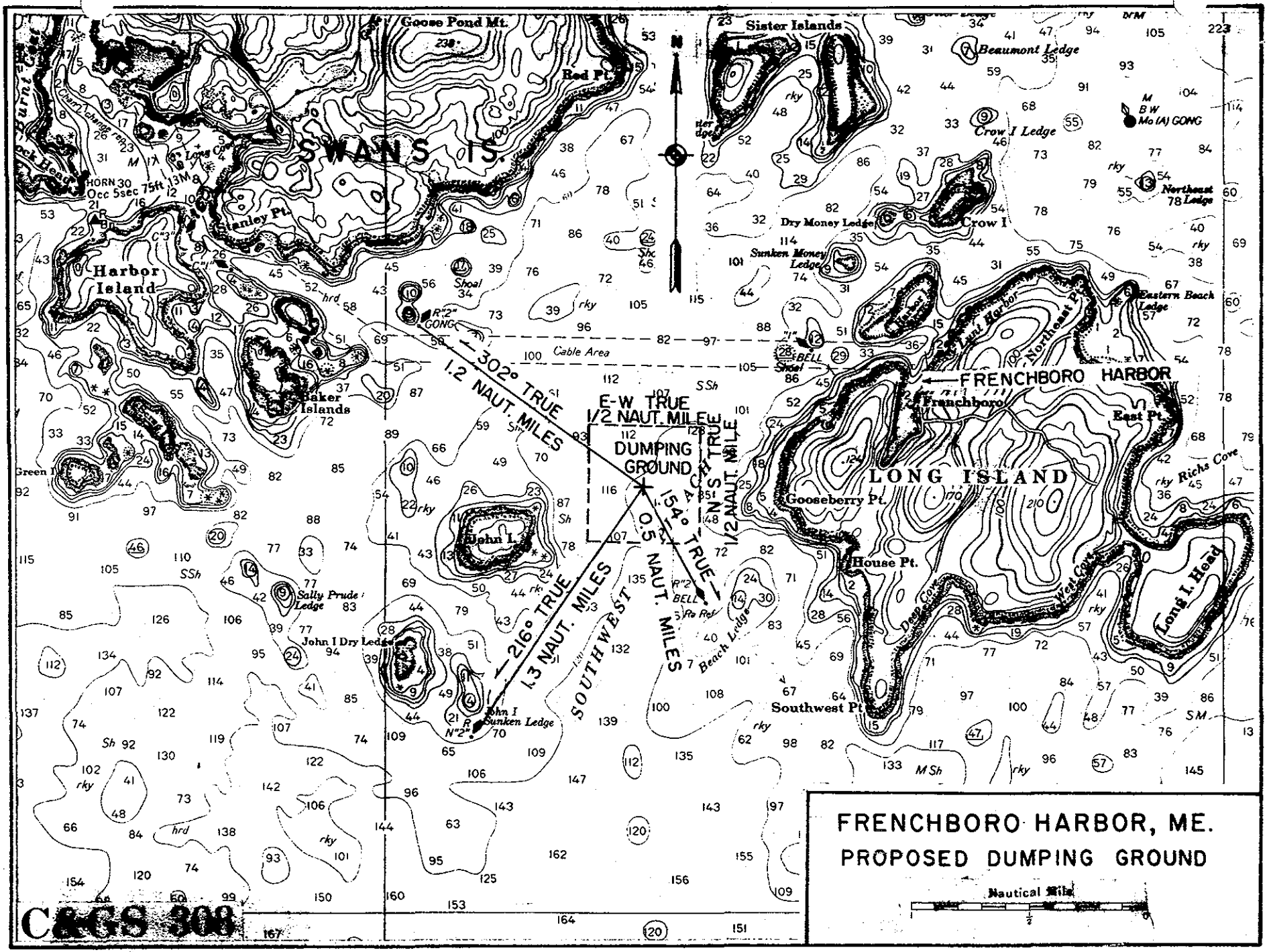
APPROVED: CHIEF, ENGINEERING DIVISION — DATE JULY 1974

TO ACCOMPANY DESIGN MEMORANDUM DATED 26 JULY 1974

SCALE 1" = 100' | SPEC. NO. DACW 33

DRAWING NUMBER 2001 D-3-4

SHEET 2 OF 2


Goose Pond Mt.
Sister Islands
Beaumont Ledge
Red Pt.
SWANS IS.
Crow I Ledge
Northeast 78 Ledge
Dry Money Ledge
Crow I
Sunken Money Ledge
Stanley Pt.
Harbor Island
Shoal
Eastern Beach Ledge
Northeast Pt.
Cable Area
302° TRUE
1.2 NAUT. MILES
E-W TRUE
1/2 NAUT. MILE
DUMPING GROUND
154° TRUE
0.5 NAUT. MILES
SOUTHWEST
216° TRUE
1.3 NAUT. MILES
FRENCHBORO HARBOR
Frenchboro
East Pt.
Baker Islands
LONG ISLAND
Gooseberry Pt.
Green I.
John I.
Sally Prude Ledge
John I Dry Ledge
John I Sunken Ledge
House Pt.
Beach Ledge
Southwest Pt.
Long I. Head
Deep Cove
West Cove
Richs Cove
C&GS 308
FRENCHBORO HARBOR, ME.
PROPOSED DUMPING GROUND
Nautical Mile

APPENDIX "A"

LETTERS OF COMMENT AND CONCURRENCE

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Federal Building, 14 Elm Street
Gloucester, Mass. 01930

November 28, 1973

Mr. Richard E. Griffith
Regional Director
Bureau of Sport Fisheries
and Wildlife
U.S. Post Office and Courthouse
Boston, Massachusetts 02109

Dear Mr. Griffith:

We have reviewed and concur with your final draft report relative to the navigation improvement project for Frenchboro Harbor, Hancock County, Maine.

Sincerely yours,

Russell T. Norris
Regional Director

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
John W. McCormack Post Office and Courthouse
BOSTON, MASSACHUSETTS 02109

NOV 2 1 1973

Division Engineer
New England Division
U. S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02154

Dear Sir:

This is our updated post-authorization report on the navigation improvement project for Frenchboro Harbor (Hancock County), Maine, as requested by Mr. Leslie's letter of August 7, 1973. The project was authorized for construction in December 1970. This report was prepared under authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). It has the concurrence of the Maine Department of Marine Resources as indicated by their November 13, 1973 response (copy attached for your information). It is also being coordinated with the National Marine Fisheries Service whose comments will be forwarded upon receipt.

We understand that the plan of improvement will consist of a 5-acre anchorage 10 feet deep at mean low water, in the outer harbor and a channel 75 feet wide and 6 feet deep from the outer harbor into a 1.5 acre anchorage and turning basin, also six feet deep.

Frenchboro Harbor, located on the northwest portion of Long Island, is a narrow cove bounded mostly by ledges. The inner portion of the harbor is shoal offering very limited anchorage. At low water, the harbor is almost non-existent. To avoid running aground, boats must anchor outside the harbor proper in an area exposed to wind and waves.

Frenchboro Harbor is an active commercial fishing port. At present, there are four major types of fishing being carried on: lobstering, herring seining, long-line fishing for hake, and scallop dragging. The shallow water conditions create major navigation problems in the harbor.

Landing the lobster catch during low water periods is a major problem. This coupled with dangerous docking conditions during foul weather, accounts for much of the lobster harvest being diverted to other ports. Lobstermen report that they have had frequent losses of traps that could not be brought into the harbor for protection during stormy weather. Many boats have suffered extensive damages to hull and gear during foul weather because of overcrowding in this anchorage. Lobster-holding cars are also subjected to damage or loss during stormy weather.

With the arrival of as many as 17 mainland herring carrier vessels, overcrowding in the harbor reaches the critical point and adds to the difficulties of handling the transfer of fish. Tidal delays are inherent at this harbor, thus limiting the available time the herring fishermen have to make their catches. As many as ten seiners, operating a total of 36 boats of various sizes, operate in the area during the peak of the fishing season. The estimated average annual herring catch under without-the-project conditions in the Frenchboro Harbor area over the 50-year period of analysis is four million pounds.

An important fishery for hake takes place in the vicinity of Frenchboro. The fish are taken by long line during a period of about four months each year. About seven vessels operate out of Frenchboro Harbor and land their catch at mainland ports. As is the case with the herring fishery, navigation problems associated with low-water conditions and tidal delays also limit the catches of hake. Hake catches under without-the-project conditions will average about two and a half million pounds annually.

A total of 22 lobster boats are based at this harbor. The latest figures on lobster landings indicate that about 8,000 pounds of lobsters per boat or a total of about 180,000 pounds valued at $262,800 are caught by lobster boats based at Frenchboro Harbor. Of this total, however, about 140,000 pounds are landed at Frenchboro. The remaining 40,000 pounds are landed elsewhere, primarily at McKinley, on the mainland, due to the present lack of facilities and unprotected conditions existing at Frenchboro Harbor. The average annual lobster catch is expected to remain at about the same level over the period of analysis, that is, 180,000 pounds.

With improvement of the harbor, it is expected that the 40,000 pounds of lobster now landed elsewhere will be brought into Frenchboro Harbor. Additional mooring space within a protected anchorage will permit four lobstermen, not now fishing out of Frenchboro, to return, thus adding their average catch of about 32,000 pounds to the total of local landings.

It is expected that with elimination of tidal delays and improved navigation conditions, the lobster landings will increase by ten percent, representing 21,200 pounds, at $1.46 per pound, valued at $31,000. This increase of $31,000 represents the average annual project benefit accruing to the lobster industry.

In addition to the aforementioned fishery vessels, seven scallop boats are now based at Frenchboro Harbor. This important fishery has developed in the area since the time of our last report. Local fishermen feel confident that between 40,000 and 50,000 pounds of scallops can be landed annually, if navigation conditions are improved. This fishery is valued in excess of $100,000.

Harbor improvement will increase the annual herring catch in the area because of greater fishing efficiency. It will allow better attendance of seines on a regular basis. These seines are usually set in large coves on the seaward side of the island. The improved anchorage will provide additional space to set seines. There will be reduction in tidal delays by herring carrier vessels picking up fish for delivery to the mainland. This will represent an average annual benefit of 250,000 pounds of herring valued at $9,400 at landing.

The hake fishery also will be benefited by the project. Improved navigation conditions and elimination of tidal delays will allow the existing fleet approximately 30 additional days of fishing per year. This will represent an additional catch of 840,000 pounds with an average annual value of $84,000.

In summary, the following annual commercial fishery benefits will accrue to the harbor improvements at Frenchboro Harbor, Maine:

Increased lobster landings at Frenchboro Harbor, Maine:
21,200 pounds valued at $31,000

Increased herring catch: 250,000 pounds valued at $9,500

Increased hake catch: 840,000 pounds valued at $84,000

Scallop catch: 40,000-50,000 pounds valued at $100,000

Thus, the total average annual commercial fishery benefits will be $224,500 at landing.

Harbor dredging will not severely damage the fish and wildlife resources, nor will spoiling disposal if confined to an area northwest of Frenchboro Harbor (as shown on attachment). This is an area with mud bottom with depths from 100 to 114 feet located about one mile from Frenchboro Harbor and about one-half mile south of the cable line from Swans Island to Frenchboro.

We plan no further studies on the plan of improvement unless the plan currently considered is altered. Should there be changes in the plan, please advise us, and we will determine whether additional fish and wildlife studies are needed.

Sincerely yours,

Willard M. Spaulding Jr.

ACTING Regional Director

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
John W. McCormack Post Office and Courthouse
BOSTON, MASSACHUSETTS 02109

JAN 8 1974

Division Engineer
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, MA 02154

Dear Sir:

Attached is a copy of a letter from the National Marine Fisheries Service concerning your navigation improvement project for Frenchboro Harbor, Hancock County, Maine. These comments were received pursuant to the release of our November 21, 1973, updated post authorization report on the project.

The National Marine Fisheries Service concurs with our report.

Sincerely yours,

Randolph C. Griffith

Regional Director

Attachment

SPENCER APOLLONIO, COMMISSIONER

STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES
FISHERIES RESEARCH STATION
WEST BOOTHBAY HARBOR, MAINE 04575

January 31, 1974

Attention: NEDED-R

Meyer S. Slotkin
Acting Chief, Engineering Division
N.E. Division
Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

Dear Mr. Slotkin:

I have examined the dump site for Frenchboro, Maine and have found it satisfactory. The spoil is unpolluted and will not pose a pollution problem.

Sincerely yours,

John W. Hurst, Jr.
Laboratory Director

JWH:pc

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203

April 18, 1974

Mr. John W. Leslie, Chief
New England Division, Corps of Engineers
U. S. Department of the Army
424 Trapelo Road
Waltham, Massachusetts 02154

Dear Mr. Leslie:

At a meeting on April 17, 1974 with Mr. Richard Simonian of the Corps of Engineers, this agency was asked to comment on proposed dredging and disposal of approximately 100,000 cubic yards from Frenchboro Harbor, Maine.

It is this agency's understanding, based upon our conversation and a letter from John Hurst Jr. of the Maine Department of Environmental Protection, that the dredged spoils consist of mostly sand, gravel and rock and it is unpolluted. We do not expect the disposal of this material in the designated site, approximately one-quarter of a nautical mile N.W. of Long Island, to have any unacceptable adverse impact and therefore we have no objections to the project.

Sincerely yours,

William S. Rosenberg, Ph.D.
Ocean Disposal Coordinator
Permits Branch

Frenchboro, Maine
04635
July 1, 1974

Dept. of the Army
N.E.D., Corps of Eng.
424 Trapelo Road
Waltham, Mass. 02154

Dear Sirs:

We the Inhabitants of Frenchboro, Long Island Plantation, are willing and able to meet the requirements of local Cooperation. All conditions outlined (A to G) in your letter of June 19, 1974 address to David L. Lunt Chairman, Board of Selectman Frenchboro, Me. will be met.

Yours very truly,
David L. Lunt

SPENCER APOLLONIO, COMMISSIONER

STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES
STATE HOUSE
AUGUSTA, MAINE 04330

July 10, 1974

John H. Mason
Colonel, Corps of Engineers
Division Engineer
Department of the Army
N.E. Division, Corps of Engineers
424 Trapelo Road
Waltham, Mass. 02154

Dear Colonel Mason:

Reference is made to your letter of 19 June 1974 regarding the Corps of Engineers' study of a navigation improvement project in Frenchboro Harbor, Long Island Plantation, Maine.

Please be advised that we at the State level are pleased to learn that this project has reached the advanced planning and design stage and that construction, hopefully, will get underway during Fiscal Year 1975.

As we have previously indicated, we believe this project will be very beneficial to the Frenchboro area and to Maine's commercial fisheries.

After checking with Frenchboro officials, it is our understanding that local interests are prepared to meet the Corps' requirements of local cooperation, and that they have notified your office accordingly.

Sincerely,

Spencer Apollonio

SPENCER APOLLONIO
Commissioner

SA/bj

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314

IN REPLY REFER TO

ENGCW-PD

9 November 1970

SUMMARY
COORDINATION OF ENVIRONMENTAL STATEMENT
ON
FRENCHBORO HARBOR, MAINE

1. Coordination of Environmental Statement.

AGENCY	Date of Transmittal	Date of Comments
Department of the Interior	15 Jun 1970	21 Aug 1970
Department of Agriculture	Not sent	
Department of Transportation	15 Jun 1970	8 Jul 1970
Department of Health, Education and Welfare	15 Jun 1970	28 Aug 1970
State of Maine	15 Jun 1970	7 Jul 1970

2. Summary.

The correspondence from the interested State and Federal Agencies is attached as an inclosure to the environmental statement. The comments of HEW and Interior and our reply have been set forth in Section 4 of the environmental statement.

19 October 1970

ENVIRONMENTAL STATEMENT FOR

FRENCHBORO HARBOR, MAINE

PREPARED IN CONNECTION WITH
A SURVEY REPORT OF THE
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASSACHUSETTS
PUBLISHED IN SD 91-32

19 October 1970

FRENCHBORO HARBOR, MAINE

ENVIRONMENTAL STATEMENT

1. Project Description. The proposed project is designed to improve navigation at Frenchboro Harbor and it is located on the northeast side of Long Island, a small island off the coast of Maine about 100 miles northeast of Portland. The major water resource problem at this site is the lack of an adequate navigation channel and anchorage areas for the commercial fishing vessels using this harbor. Our report recommends the construction of a 5 acre outer harbor anchorage six feet deep, a 1.5 acre anchorage in the inner harbor six feet deep and a six foot connecting channel between these two anchorages.

This navigation study was made in compliance with a resolution adopted by the Committee on Public Works of the United States Senate on 17 January 1963. The Board of Engineers for Rivers and Harbors was requested to review the report of the Chief of Engineers for this project which was submitted to Congress in April 1937 to determine whether the recommendations contained therein should be modified in the interests of improving navigation conditions. A modification to the existing Federal project was found warranted and the recommendations are contained in the report now before the Congress for consideration. The plan of improvement had a 1.7 benefit-cost ratio at the time it was submitted to Congress.

2. Environmental Setting Without the Project: The basic environmental considerations associated with this navigation improvement relate to those dealing with mans environment in the island community and the environment of marine life in the harbor and in the area where dredged material is to be disposed. In the absence of the navigation improvement it is reasonable to expect a serious cutback in the commercial fishing industry and a major loss in the major source of income to the residents of the island. As these conditions will worsen in the absence of a navigation project mans environment on the island will also diminish. Federal and State interests have not placed any significant environmental value on the fishery resource or habitat of the harbor area. It is a typical coastal fishing port in which tidal action plays a major role in regulating the environmental parameters essential to marine life such as salinity, temperature, flow characteristics and turbidity. The nutrient value of the harbor bottom has not been assessed. However, coordination efforts to date have not revealed that the bottom holds any significant value as being an important food source for marine life. The ocean floor in the proposed disposal area has a mud bottom located about 100 to 115 feet below the water surface. Marine interests have not identified any special environmental considerations relating to this disposal area. A further assessment of the environmental values relating to the harbor and the disposal area will be made during preconstruction planning when construction activities will be finalized.

3. Impact Statement. The following information is furnished in response to Section 102 (2)(C) of the National Environmental Policy Act of 1969.

a. Identify "the environmental impacts of the proposed action." The construction and maintenace of a navigation project at this location will provide an immediate and lasting beneficial impact on this island community by restoring and enhancing the commercial fishing industry with a much needed navigation improvement. The entire community will benefit from this work as it impacts on the major source of income, the fishing industry.

b. Indentify "any adverse environmental effects which cannot be avoided should the plan be implemented." A minor adverse impact to the fish life and fish habitat could take place in the harbor as a result of the dredging but the impact, if any, will be temporary. This stems from the increased level of turbidity which will take place during the dredging process. The removal of dredged material may also bring about a small reduction in the nutrients needed to sustain fish and shellfish but like the turbidity problem it would be minor and of a relatively short duration. Disposal of dredged material at sea may have some adverse environmental impacts on marine life. However, these impacts are expected to be of a temporary and minor nature also.

c. Identify "alternatives to the proposed action." One alternative to the proposed action would be to forego the improvement of this waterway. This course of action will have a serious adverse impact on the residents of the island as the waterway is an essential element to the preservation and enhancement of the commercial fishing industry, the major source of income to the people on this island. Based on an analysis of the tangible benefits and cost a "no development" alternative will have a net cost to the general public of $22,100 annually in benefits foregone. However, since the recommended plan has not surfaced any significant environmental conflict we have no basis for giving the "no development" alternative any serious consideration. Since adverse environmental impacts are deemed to be minor in nature they are more than offset by the gains received by the residents of the island community when the income level of the people is increased. Accordingly, a more rational alternative from an environmental point of view which will retain the improved income position of the islanders is in the selection of a disposal area for the dredged material. We have a great deal of flexibility in selecting an alternative as disposal area selection does not have to be finalized until the preconstruction phase of planning. At that time the economic and environmental considerations will be reassessed and the selection of a disposal area will be governed by the findings that prevail at that time.

d. Discuss "the relationship between local short term uses of man's environment and the maintenance and enhancement of long term productivity." This proposal is designed to make a permanent but minor change in the geographic makeup of the ocean floor in Frenchboro Harbor, by dredging and maintaining of a channel and two anchorages. The plan will not have any significant or lasting impact on the long term productivity of the resources in the harbor. However, any adverse environmental impacts incurred on the fishery resources are believed to be more than offset by the gains both short

and long term received by the residents of the island when the proposed navigation improvement would preserve and enhance their major source of income, commercial fishing.

e. Identify "any irreversible or irretrievable commitment of resources which would be involved in the proposed action should it be implemented." The proposed plan merely requires the construction of two anchorages and one channel and the necessary maintenance dredging of these features. The only known commitment of resources that is irreversible or irretrievable is the commitment of labor needed to build the project.

4. Coordination of Plan. The proposed project was fully coordinated with Federal, State and local governments. Public hearings were held in the town of Tremont, Maine on 7 June 1966 to determine the nature and extent of the improvements desired by local interests. The meeting was attended by State and local government representatives, fish interests, business interests and interested residents of the area. The views of these interest groups were given full consideration during planning and upon completion of the study these interest groups concurred in the plan recommended by the Division Engineer.

The list of Federal, State and local interests who participated in this study effort is as follows:

1. Regional Office, U. S. Fish and Wildlife Service.
2. Regional Office, Department of the Interior.
3. Regional Office, Department of Health, Education and Welfare.
4. Commander, First Coast Guard District.
5. Selectmen of Long Island Plantation, Frenchboro, Maine.
6. Department of Sea and Shore Fisheries, State of Maine.
7. Maine Port Authority.
8. Department of the Interior.
9. Department of Health,Education and Welfare.
10. Department of Transportation.
11. Governor, State of Maine.

All interested Federal Agencies at the regional level, State Agencies and the local government support the proposed plan. However, the regional office of the Department of the Interior suggests that we insure that construction

contractors comply with State water quality control standards and that the final selection of a disposal area for the dredging work be given further coordination with interested Federal and State interests prior to construction. We fully intend to comply with these suggestions.

The draft environmental statement for this project was furnished to interested Federal and State interests and the following comments were received.

By letter of 7 July 1970 the Governor, State of Maine reaffirmed his support of the proposed navigation improvement for Frenchboro Harbor. No adverse comments were furnished with respect to the environmental statement.

In their letter of 21 August 1970 the Department of Interior reaffirms their concern with respect to the comments made by their regional offices. They also believe a thorough environmental study is warranted due to the proximity of this project to Arcadia National Park. We intend to comply with the suggestions of the regional offices but we do not believe the environmental study is a necessary pre-requisite to authorization or construction of the Frenchboro Harbor improvement. The dredging and disposal operations were assessed by Federal and State interests and were found to have only minor and local adverse environmental impacts.

A letter of 3 July 1970 from the Department of Transportation advises us that they have no objection to our draft environmental statement.

The Department of Health, Education and Welfare has expressed concern with respect to the selection of disposal areas in their letter of 28 August 1970. We plan to fully coordinate the sites to be selected for disposal of dredged material with Federal and State interests during pre-construction planning. Minimizing adverse environmental effect will be a prime factor in the selection of these disposal areas.

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STATE OF MAINE
OFFICE OF THE GOVERNOR
AUGUSTA, MAINE

KENNETH M. CURTIS
GOVERNOR

July 7, 1970

Lt. General F. J. Clarke
Chief of Engineers
Department of the Army
Office of the Chief of Engineers
Washington, D. C. 20314

Dear General Clarke:

I believe the improvement project proposed for study at Frenchboro Harbor on Long Island Plantation is recommendable inasmuch as an anchorage area and adequate access by way of a navigational channel is needed for the benefit of a commercial fishing fleet.

You are assured of the cooperation of State of Maine agencies in determining and evaluating the ecological hazzards involved and of their assistance in plan development to permit the prosecution of the work with a minimum of temporary damage.

Again I wish to assure you of the State of Maine's unqualified cooperation in the planning and eventual realization of this project. Our agencies involved are convinced that with a property planned and executed program this project will prove to be of immense benefit.

Sincerely,

Kenneth M. Curtis
Governor

KMC:lh
11,568

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

OFFICE OF THE SECRETARY

WASHINGTON, D.C. 20201

AUG 28 1970

Lt. General F. J. Clarke, USA
Chief of Engineers
U.S. Corps of Engineers
Department of the Army
Washington, D.C. 20314

Dear General Clarke:

As requested in your letter of June 15, 1970, the draft environmental statement on Frenchboro Harbor, Maine, has been reviewed by the appropriate environmental health programs within the Public Health Service.

Our review indicates that the Project as proposed will have no significant adverse environmental effect on the area in question. We would like to emphasize, however, that a review of the Frenchboro Harbor Project in 1968 by the Public Health Service pointed out that dredged material should not be spoiled along Mount Desert Island or along the shores of the mainland since those areas support shellfish beds. We would like for the Corps of Engineers to give particular attention to this concern during preconstruction planning.

Sincerely yours,

Roger O. Egeberg, M.D.
Assistant Secretary
for Health and Scientific Affairs

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Address reply to
COMMANDANT (AWL)
U.S. COAST GUARD
WASHINGTON, D.C.
20591

8 July 1970

Lt. General F. J. Clarke
Chief of Engineers
Department of the Army
Washington, D. C. 20314

Dear General Clarke:

This is in response to your letter of 15 June 1970 to Secretary Volpe requesting the Department of Transportation's views on the environmental statement to be included in the Frenchboro Harbor, Maine study.

The Department of Transportation finds no objection to the content of your proposed draft of the environmental statement.

Thank you for the opportunity afforded this Department to offer views and comments on the matter.

Sincerely,

K. Y. Edwards

K. Y. EDWARDS
Rear Admiral, U. S. Coast Guard
Chief, Office of Public and International Affairs

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

AUG 1 1970

Dear General Clarke:

This responds to your letter of June 15, 1970, requesting our review of your draft environmental statement for Frenchboro Harbor, Maine.

We have reviewed the draft statement and believe that it could be improved by identifying the environmental impacts that will take place during the construction period. Inclusion of certain construction methods or project features may be necessary to protect the environment. If such measures are necessary, their cost should become part of the overall cost of the project.

The Fish and Wildlife Service, in its report of July 26, 1968, found the project will benefit commercial fisheries. The project will have no adverse impact on the resource base if spoil is deposited in confined upland areas or approved overboard dumping grounds. The statement provides for this.

There is a definite urgency for a thorough environmental study during the planning stage due to the proximity of the proposed project to the Acadia National Park.

The recommendations contained in our letter commenting on the project are still appropriate and we assume that even though they are not extensively covered in the environmental statement they will be adequately considered in the design and operation of the project.

We appreciate the opportunity to review this statement.

Sincerely yours,

James R. Smith
Assistant Secretary

Lt. General F. J. Clarke
Chief of Engineers
Attn: ENGCW-PD
Department of the Army
Washington, D.C. 20314

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314

IN REPLY REFER TO
ENGCW-PD

December 1970

SUBJECT: Environmental Statements for Projects being Considered in the 1970 Omnibus Bill

Division Engineer, New England

1. In compliance with the environmental legislation and the Interim Guidelines of the Council on Environmental Quality (CEQ) environmental statements were furnished to Congress and CEQ on 16 November 1970 for each project being considered for inclusion in the 1970 Omnibus Bill. Copies of the correspondence transmitting these statements to Congress and CEQ are being attached for your information (see Inclosure 1).

2. We are inclosing four copies of an environmental statement for each project in your Division being considered for authorization by Congress (see Inclosure 2). These statements should be furnished to the appropriate District Office for purposes of updating during preconstruction planning.

3. The statements were submitted for State and Agency review but due to the abbreviated review period we were unable to obtain a response from all interested parties before the statements were sent to Congress and CEQ. However, those comments received and sent to Congress are attached to the statements. Other comments on the statements received after the data was furnished to Congress and CEQ are also attached for purposes of updating the statements during preconstruction planning. Any additional comments received after the date of this letter that pertain to these statements will also be forwarded to you for consideration when the statements are updated. It is requested that special consideration be given to those agency comments where follow-up action on the part of the Corps of Engineers is indicated or expected.

FOR THE CHIEF OF ENGINEERS:

J. B. Newman

J. B. NEWMAN
Colonel, Corps of Engineers
Executive Director of Civil Works

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